

Appl. No. 10/816,527  
Reply to Examiner's Action dated September 30, 2005

### **REMARKS/ARGUMENTS**

The Applicants have carefully considered this application in connection with the Examiner's Action and respectfully request reconsideration of this application in view of the foregoing amendment and the following remarks.

The Applicants originally submitted Claims 1-14 in the application. Presently, the Applicants have amended Claims 1, 6, 9, 10, and 13, have canceled Claim 5 without prejudice or disclaimer, and have added new claims 15-17. No other claims have been amended, canceled nor added. Accordingly, Claims 1-4 and 6-17 are currently pending in the application.

#### **I. Rejection of Claims 1-3, 5-8 and 13-14 under 35 U.S.C. §102**

The Examiner has rejected Claims 1-3, 5-8 and 13-14 under 35 U.S.C. §102(e) as being anticipated by U.S. Patent Pub. No. 2005/0066883 to Dubrow, *et al.* ("Dubrow"). Independent Claims 1 and 13, in one form or another, require that a plurality of nanostructures be configured to attach a first surface and a second surface using attractive forces. Dubrow fails to disclose this element.

Dubrow, in contrast to the present invention, is directed to Methods, Devices and Compositions for Depositing and Orienting Nanostructures. (Title). Dubrow discloses that nanowires 106 disposed upon a transfer substrate 102 may be transferred to a receiving substrate 108 having a surface treatment 112 located thereon, by bringing the nanowires 106 disposed on the transfer substrate 102 into contact with the receiving substrate 108. Dubrow then discloses that the

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transfer substrate 102 and the receiving substrate 108 are separated, the nanowires 106 thereby being transferred to the surface treatment 112 on the receiving substrate 108. (See, Dubrow paragraph [0018]). However, a teaching of transferring nanowires from one surface to another using an adhesive, is not a teaching that a plurality of nanostructures are configured to attach a first surface and a second surface using attractive forces, as is currently claimed. Accordingly, Dubrow fails to disclose this claimed element.

Therefore, Dubrow does not disclose each and every element of the claimed invention and as such, is not an anticipating reference. Because Claims 2-3, 5-8 and 14 are dependent upon Claims 1 and 13, Dubrow also cannot be an anticipating reference for Claims 2-3, 5-8 and 14. Accordingly, the Applicants respectfully request the Examiner to withdraw the §102 rejection with respect to these Claims.

## **II. Rejection of Claims 9-12 under 35 U.S.C. §102**

The Examiner has rejected Claims 9-12 under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,828,685 to Stasiak, ("Stasiak"). Independent Claim 9 includes the claim element that a first plurality of nanostructures and a second plurality of nanostructures are configured to interleave with one another and adapted to transfer thermal or electrical energy there between. Independent Claim 10 includes the claim element that a first plurality of conductive nanostructures and a second plurality of conductive nanostructures are attached to one another using attractive forces. Stasiak fails to disclose these elements.

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Stasiak, in contrast to the present invention, is directed to a Memory Device Having a Semiconducting Polymer Film. (Title). Stasiak discloses that a "semiconducting polymer layer 220 is disposed over first substrate side 217 with electrical conductors 240 disposed on [a] substrate 216 and electrically coupled to [a] second side 222 of [the] semiconducting polymer layer 220." Stasiak further discloses that "electrical conductors 250 are disposed on [a] second substrate side 218 and electrically coupled to [the] first side 225 of [the] semiconducting polymer layer 224." (See, Stasiak at column 5, lines 20-30). Stasiak also discloses that the electrical conductors may be formed using "nanoimprint lithography or techniques for forming nanowires". (See, Stasiak at column 11, lines 30-35).

In contrast to that presently claimed, however, the electrical conductors of Stasiak, whether nanowires or not, are not configured to interleave with one another, as is presently claimed in Claim 9, as well as are not configured to attach to one another using attractive forces, as is presently claimed in Claim 10. Namely, Fig. 2 of Stasiak clearly indicates that the electrical conductors are disposed a significant distance apart from one another and separated by a substrate 216, and thus such electrical conductors can not be interleaved (per Claim 9) or attached to one another using attractive forces (per Claim 10).

Therefore, Stasiak does not disclose each and every element of the claimed invention and as such, is not an anticipating reference. Because Claims 11-12 are dependent upon Claim 10, Stasiak also cannot be an anticipating reference for Claims 11-12. Accordingly, the Applicants respectfully request the Examiner to withdraw the §102 rejection with respect to Claims 9-12.

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### III. Rejection of Claims 1-5 and 9-14 under 35 U.S.C. §102

The Examiner has rejected Claims 1-5 and 9-14 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 6,340,822 to Brown, *et al.* ("Brown"). As previously indicated, independent Claim 1 requires the claim element that a plurality of nanostructures are configured to attach a first surface and a second surface using attractive forces. As also previously indicated, independent Claim 9 includes the claim element that a first plurality of nanostructures and a second plurality of nanostructures are configured to interleave with one another and adapted to transfer thermal or electrical energy there between, and independent Claim 10 includes the claim element that a first plurality of conductive nanostructures and a second plurality of conductive nanostructures are attached to one another using attractive forces. Brown fails to disclose these elements.

Brown, in contrast to the present invention, is directed to an Article Comprising Vertically Non-Interconnected Circuit Devices and Method for Making the Same. (Title). Using Fig. 6 of Brown, and the supporting specification, the Examiner asserts that Brown discloses a nano-interconnected circuit that contains a first surface 10, a second surface 10', a first plurality of nanostructures 4a disposed on the first surface 10, and a second plurality of nanostructures 4b disposed on the second surface 10'. The Examiner asserts that the nanostructures 4a, 4b are disposed in such a way as to form at least a first conductive connection between the first and second surfaces, the conductive connection comprising a thermal and/or electrical connection. The Examiner further asserts that the nanostructures 4a, 4b are adapted to adhere together using attractive forces between molecules thereof.

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The Examiner, however, is misinterpreting Brown, and in doing so is reading teachings into Brown that do not exist. With regard to Claim 1, Brown fails to disclose the claimed element that attractive forces between a plurality of nanostructures and a surface are configured to connect the surface and another surface. With regard to Claim 10, Brown fails to disclose that attractive forces between a first plurality of nanostructures and a second plurality of nanostructures couple the first and second pluralities together. Specifically, Brown does not enable a teaching of using attractive forces between a plurality of nanostructures and a surface (per Claim 1) or attractive forces between a first plurality of nanostructures and a second plurality of nanostructures (per Claim 10) to couple the different features. Nowhere in Brown is there even a hint of using attractive forces to couple the surfaces. Fig. 6 of Brown teaches that the plurality of nanostructures 4a and plurality of nanostructures 4b are proximate one another. Fig. 6 of Brown may possibly even teach that the plurality of nanostructures 4a and plurality of nanostructures 4b are connected together. However, at most, Brown teaches or suggests that the plurality of nanostructures 4a and plurality of nanostructures 4b are connected using the weight of the second surface 10', or more likely, using solder such as was used to couple the first and second surfaces 10, 10' in Figs. 5A thru 5E. Notwithstanding, there is no teaching or suggestion in Brown, and thus no enablement, for using attractive forces as is claimed in independent Claims 1 and 10. Thus, Brown fails to disclose these elements.

With regard to independent Claim 9, Brown clearly fails to disclose that its first plurality of nanostructures 4a and second plurality of nanostructures 4b are interleaved, as is presently claimed.

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Therefore, Brown does not disclose each and every element of the claimed invention and as such, is not an anticipating reference. Because Claims 2-5 and 11-14 are dependent upon Claims 1 and 10, Brown also cannot be an anticipating reference for Claims 2-5 and 11-14. Accordingly, the Applicants respectfully request the Examiner to withdraw the §102 rejection with respect to Claims 2-5 and 11-14.

#### **IV. Rejection of Claim 4 under 35 U.S.C. §103**

The Examiner has rejected Claim 4 under 35 U.S.C. §103(a) as being unpatentable over Dubrow in view of Stasiak. As previously indicated, independent Claim 1 requires that a plurality of nanostructures are configured to attach a first surface and a second surface using attractive forces. As previously established, Dubrow and Stasiak each fail to disclose this element. Dubrow and Stasiak further fail to suggest this element.

Specifically, Dubrow fails to suggest this element because Dubrow does not wish for the first and second surfaces to attach to one another using attractive forces, but only wishes for the nanostructures 106 to transfer from the transfer substrate 102 to the receiving substrate 108, and then the transfer substrate 102 and receiving substrate 108 separate from one another. If the transfer substrate 102 and receiving substrate 108 of Dubrow were to attach to one another, the desire to transfer the nanostructures 106 between the two layers, which is the object of Dubrow, would be substantially, if not completely, obstructed. Accordingly, Dubrow also fails to suggest this claimed element.

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Stasiak additionally fails to suggest such an element. Specifically, Stasiak fails to suggest such an element because the conductors 240, 250 of Stasiak do not even contact another surface, let alone be configured to attach a first surface and a second surface using attractive forces, as is presently claimed. Moreover, modifying the conductors 240, 250 of Stasiak to be similar to that presently claimed, would again obstruct the purposes of Stasiak.

Accordingly, Dubrow, individually or in combination with Stasiak, fails to teach or suggest the invention recited in independent Claim 1 and its dependent claims, when considered as a whole. Accordingly, the combination fails to establish a prima facie case of obviousness with respect to these claims. Claim 4 is therefore not obvious in view of Dubrow and Stasiak.

In view of the foregoing remarks, the cited references do not support the Examiner's rejection of Claim 4 under 35 U.S.C. §103(a). The Applicants therefore respectfully request the Examiner withdraw the rejection.

**V. Rejection of Claims 6-8 under 35 U.S.C. §103**

The Examiner has rejected Claims 6-8 under 35 U.S.C. §103(a) as being unpatentable over Brown in view of Dubrow. As previously indicated, independent Claim 1 requires that a plurality of nanostructures are configured to attach a first surface and a second surface using attractive forces. As previously established, Brown and Dubrow each fail to disclose this element, and moreover Dubrow fails to suggest this element. Additionally, Brown fails to suggest such an element.

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Specifically, Brown, as previously indicated, fails to enable the idea that attractive forces between a plurality of nanostructures and a second surface are configured to attach a first surface to the second surface, as is presently claimed. As established above, Brown fails to teach or suggest anything other than the weight of the second surface 10', or alternatively solder 36, 36' coupled to nanostructure 16a thru 16g, attaching the nanostructures 16a thru 16g to another surface. Accordingly, Brown also fails to suggest this claimed element.

Accordingly, Brown, individually or in combination with Dubrow, fails to teach or suggest the invention recited in independent Claim 1 and its dependent claims, when considered as a whole. Accordingly, the combination fails to establish a prima facie case of obviousness with respect to these claims. Claims 6-8 are therefore not obvious in view of Brown and Dubrow.

In view of the foregoing remarks, the cited references do not support the Examiner's rejection of Claims 6-8 under 35 U.S.C. §103(a). The Applicants therefore respectfully request the Examiner withdraw the rejection.



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## VI. Conclusion

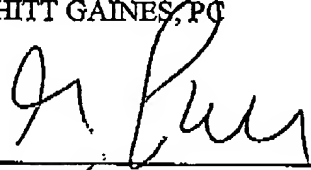
In view of the foregoing amendment and remarks, the Applicants now see all of the Claims currently pending in this application to be in condition for allowance and therefore earnestly solicit a Notice of Allowance for Claims 1-4 and 6-17.

It is not believed that any fees are due regarding this matter, however, the Commissioner is hereby authorized to charge any additional fees connected with this communication or credit any overpayment to Deposit Account No. 08-2395.

The Applicants request the Examiner to telephone the undersigned attorney of record at (972) 480-8800 if such would further or expedite the prosecution of the present application. The Commissioner is hereby authorized to charge any fees, credits or overpayments to Deposit Account 08-2395.

Respectfully submitted,

HITT GAINES, PC

  
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Dated: 12-27-05

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